

**Government of India
Ministry of Water Resources**



ANNUAL REPORT 2010-11

Ganga Flood Control Commission



Patna 2012

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From Chairman's Desk

In the Ganga basin which covers the States of Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, West Bengal, Haryana, Rajasthan, Madhya Pradesh, Chhattisgarh, Himachal Pradesh, and Delhi occurrence of floods in one part or the other is an annual feature during the monsoon period. More than 50% of the country's flood prone area lies in this basin. To mitigate the flood problems being faced in the basin, Ganga Flood Control Commission was created in 1972 as the Secretariat, executive and functional wing of the Ganga Flood Control Board (GFCB) to prepare comprehensive plans and to ensure their implementation in a co-ordinated manner. Since its inception, GFCC has played a vital role in assisting the States to manage the floods in the basin. As a part of its mandate it has prepared comprehensive plans of all the 23 river systems of basin and sent the same to the State Governments for taking follow up action on the suggestions made in these plans.



GFCC has carried out its assigned functions in an efficient and effective manner during the current year which is described in detail in this report. Particular mention is to be made about the proactive role undertaken by the GFCC in the implementation of the scheme of Flood Management Programme in the Ganga basin, a scheme of national importance initiated by the Government of India during the 11th five year Plan. The scheme made good progress and a financial assistance to the tune of Rs.558.40 crore was provided to the Ganga basin States during the year 2010-11.

GFCC officers have played important role in tackling international issues with the Government of Nepal and Bangladesh in matters relating to flood and drainage management along the common border. The implementation of schemes on extension of the embankment on the international rivers of the Lalbakeya, the Bagmati, the Kamla and the Khando and removal of drainage congestion in the Ichamati river have made good progress.

It gives me great pleasure to present the annual report of GFCC for the year 2010-11 and I am sure that this report will give a comprehensive overview of the role of GFCC and its contribution in the field of flood management and other associated works in the Ganga basin during the year.


(A. K. GANJU)
Chairman

Ganga Flood Control Commission

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Highlights of the Year 2010-11

1. Techno-economic appraisal of 48 flood management schemes of various Ganga Basin States was carried out. Twenty four (24) schemes were cleared techno-economically by GFCC/TAC-MoWR while twenty (24) schemes were examined and comments / observations were conveyed to State Governments.
2. Monitoring of 36 FMP Schemes pertaining to Bihar, Jharkhand, Uttarakhand, Himachal Pradesh, Uttar Pradesh and West Bengal was done and an amount of Rs.548.40 Crore was released to the FMP Schemes as central assistance during 2010-11.
3. GFCC monitors the construction of embankments on Kamla, Bagmati and Lalbakeya rivers in Nepal being funded by Government of India. Two meetings of India-Nepal Joint Committee on Inundation and Flood Management (JCIFM) which monitors the above work were held in June 2010 and January 2011.
4. Flood management schemes on common/borders rivers with Bangladesh in West Bengal and the scheme for desilting of Ichamati rivers - West Bengal with total funding under the Plan Scheme – “River Management Activities and Works Related to Border Areas” were monitored by GFCC.
5. GFCC took a lead role in finalizing the recommendations for taking up flood management works on river Kosi and right bank of river Gandak before the floods of 2011 with Chairman, GFCC being the Chairman of both Kosi High Level Committee (KHLC) and Gandak High Level Standing Committee (GHLSC).
6. Updating of Comprehensive Plan of Kosi river was under progress.
7. Report on assessment of adequacy of waterways for rail and road bridges for the Main Ganga Stem from Sahebganj to outfall in Bay of Bengal was completed. Survey work for the Main Ganga Stem for the reach from Haridwar to Buxar was also completed.

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Chapter - 1

Introduction

1.1 Flood Problems in the Ganga basin

Two holy rivers originating from the glacial peaks of the Himalayas at an altitude of about 7000 meter, the Alaknanda and the Bhagirathi unite near Devprayag. The combined river called the Ganga traverses its course of 2525 km (1450 km in Uttar Pradesh including Uttarakhand, 110 km along U.P, Bihar border, 445 km in Bihar and Jharkhand and 520 km in West Bengal) to its outfall in to the Bay of Bengal. The important tributaries which join the Ganga in its course are the Ramganga, Gomati, Ghaghra, Gandak, Burhi Gandak, Kosi, Kamla, Bagmati and Mahananda on the left and Yamuna, Tons, Sone, Kiul, Ajoy, Damodar, Punpun and Rupnarayan on the right . The river Ganga is the master drain of the Ganga basin states. It drains a total catchment area of 10.68 lakh sq. km., out of which 8.61 lakh sq. km lies in India thus draining 26 percent area of India. The soil in the Gangetic plain is generally alluvial. All the major left bank rivers draining into the Ganga are of the Himalayan origin. On the other hand, out of the major right bank rivers only the Yamuna is of Himalayan origin and the rest of the major right bank rivers originate from the Vindhya or the plateau between the Ganga and the Vindhya. Among the various Ganga basin states, the state of Bihar, particularly its northern part, U.P, particularly its eastern part and West Bengal are the worst flood affected states. The flood problems in the other Ganga basin states are not so severe.

The flood problems in the Ganga basin are summarized as under:

- (i) Heavy precipitation for long duration in the catchment.
- (ii) Blockage of drainage by the Ganga in monsoon season.
- (iii) Bank erosion by the river during the monsoon season.
- (iv) Meandering of river causing loss of land, property and life.
- (v) Inadequate bank full capacity.
- (vi) Poor maintenance of flood control structures resulting in their damage during the monsoon period.
- (vii) Inundation of villages situated within the flood plains of the rivers.

As regards erosion problems, longitudinal bed slopes of the river Ganga and its tributaries are steep in the upper reach, become flatter in middle reaches and are almost level in the lower reaches. The upper courses are noted predominantly for deep erosion i.e., bed

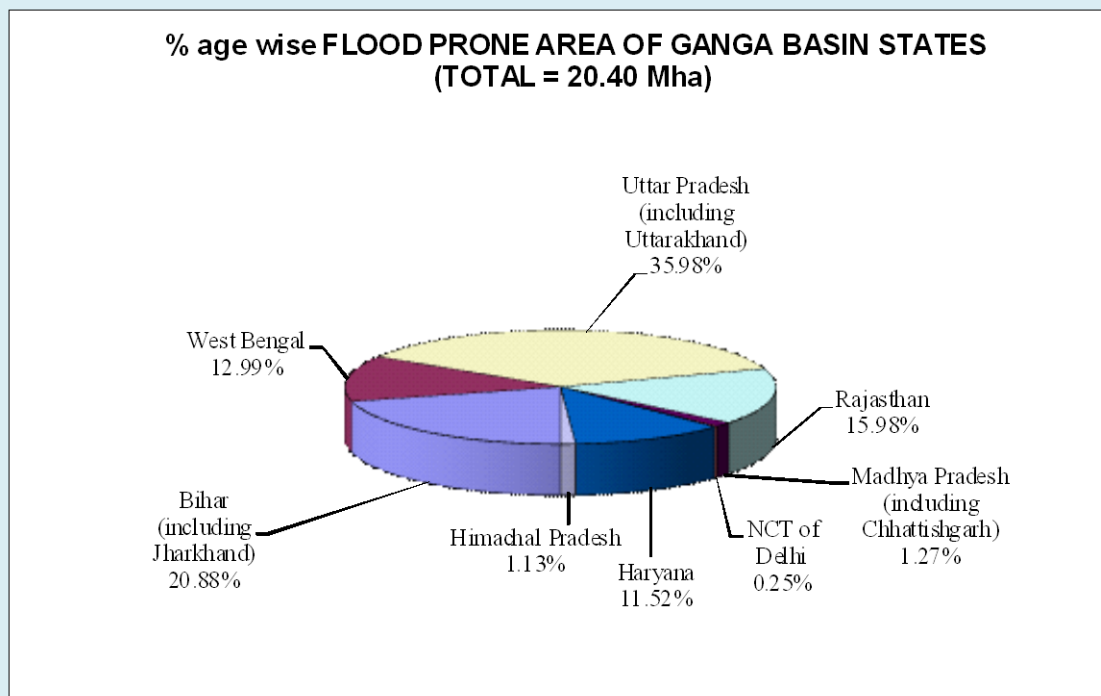
retrogression. The scoured material is carried downstream by the flow and the middle courses have evidence of both erosion and aggradation. The lower reaches where the bed slope is flatter and velocities are low, accumulation process i.e., sedimentation and accretion of the river bed is predominant. At the same time due to meandering, erosion and sedimentation take place simultaneously.

Ganga basin is spread over 11 States namely Uttarakhand, Himachal Pradesh, Haryana, Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand and West Bengal. The Ganga basin has been divided into 23 river systems. The river systems of the basin are (1) The Gomati, (2) The Adhwara Group, (3) The Ghaghra, (4) The Mahananda, (5) The Kamla Balan, (6) The Burhi Gandak, (7) The Bagmati, (8) The Punpun, (9) The Kosi, (10) The Gandak, (11) The Ajoy, (12) The Kiul-Harohar, (13) The Damodar, (14) The Mayurakshi, (15) The Yamuna, (16) The Ramganga, (17) The Tons, (18) The Badhua Chandan, (19) The Rupnarain-Haldi-Rasulpur, (20) The Jalangi, (21) The Sone, (22) The Tidal rivers and (23) The Main Ganga Stem. Most of these rivers are interstate though few are within one State only.

A total area of 20.40 million hectares (about 50% of total flood prone area in the country) is prone to floods in these States and recurring floods cause huge loss to life and property every year.

The Statewise details of flood prone area in the Ganga basin so far are given below:

Sl. No.	State	Flood Prone Area (in Lakh Ha.)	
		As assessed by RBA	As reported by States to Working Group for 10 th Plan
1	2	3	4
1.	Himachal Pradesh	2.30	4.76
2.	Haryana	23.50	23.50
3.	NCT of Delhi	0.50	0.70
4.	Uttar Pradesh (including Uttarakhand)	73.36	73.40
5.	Rajasthan	32.60	32.60
6.	Madhya Pradesh (including Chhattisgarh)	2.60	3.37
7.	Bihar (including Jharkhand)	42.60	68.80
8.	West Bengal	26.50	37.66
	Total :	203.96	244.79



1.2 Ganga Flood Control Board

With the objective to effectively tackle the critical and chronic flood problems of the Ganga basin and to minimize the associated damages, it was considered necessary to prepare an integrated plan of flood management, erosion control etc. and facilitate quick drainage and its implementation in a comprehensive and coordinated manner. To achieve this objective, Ganga Flood Control Board (GFCB) was set up by the Government of India vide Resolution No. FC-47(2)/72 dated 18.4.1972, headed by the Hon'ble Union Minister of Water Resources.

Functions:

- To lay down the broad policies and decide priorities in the implementation of various schemes.
- To issue necessary directions to Ganga Flood Control Commission in respect of formulation of a comprehensive plan of flood control in the Ganga Basin and approval of the schemes so formulated.

1.3 Composition of Ganga Flood Control Board

The composition of Ganga Flood Control Board as notified by the Ministry of Water Resources vide Resolution no.22/3/99-ER/2586 dated 28.06.2001 is given below

1.	Union Minister of Water Resources	Chairman
2.	Union Minister of State for Water Resources	Member (Chairman in absence of Union Minister of Water Resources)
3.	Union Minister of Finance or his representative	Member
4.	Union Minister of Railways or his representative	Member
5.	Union Minister of Road Transport and Highways or his representative	Member
6.	Union Minister of Agriculture or his representative	Member
7.	Chief Minister of Bihar or his representative	Member
8.	Chief Minister of West Bengal or his representative	Member
9.	Chief Minister of Uttar Pradesh or his representative	Member
10.	Chief Minister of Haryana or his representative	Member
11.	Chief Minister of Rajasthan or his representative	Member
12.	Chief Minister of Madhya Pradesh or his representative	Member
13.	Chief Minister of Himachal Pradesh or his representative	Member
14.	Chief Minister of Jharkhand or his representative	Member
15.	Chief Minister of Uttarakhand or his representative	Member
16.	Chief Minister of Chhattisgarh or his representative	Member
17.	Member, Planning Commission	Member
18.	Chief Minister, NCT of Delhi or his representative	Member
19.	Chairman, Ganga Flood Control Commission	Member-Secretary

So far 14 meetings of the Ganga Flood Control Board have been held. The 14th meeting of GFCB was held in June, 2000 at New Delhi. The draft agenda notes for holding the 15th meeting of GFCB have been prepared during the year and submitted to Ministry of Water Resources for approval.

1.4 Ganga Flood Control Commission

To deal with floods and its management in the Ganga basin States, Ganga Flood Control Commission was created in the year 1972 vide Government of India Resolution No. F.C.47(3)/72 dated 18.4.1972 as a subordinate office of Ministry of Water Resources and as the Secretariat and executive limb of Ganga Flood Control Board with its headquarters at Patna.

The composition of Ganga Flood Control Commission (GFCC) is given below:

1. Chairman, GFCC	Chairman
Full Time Members	
2. Member (Planning), GFCC	Member
3. Member (Co-ordination), GFCC	Member
Part Time Members	
4. Chief Engineer, Incharge of Flood Control, Water Resources Department, Government of Bihar.	Member
5. Chief Engineer, Incharge of Flood Control, Water Resources Department, Government of Jharkhand.	Member
6. Chief Engineer, Incharge of Flood Control, Irrigation Department, Government of Uttar Pradesh.	Member
7. Chief Engineer, Incharge of Flood Control, Irrigation Department, Government of Uttarakhand	Member
8. Chief Engineer, Incharge of Flood Control, Irrigation and Waterways Department, Government of West Bengal.	Member
9. Engineer-in-Chief, Water Resources Department, Government of Madhya Pradesh.	Member
10. Engineer-in-Chief, Water Resources Department, Government of Chhattisgarh.	Member
11. Member (River Management), Central Water Commission, Government of India, New Delhi.	Member
12. Director, Central Water and Power Research Station, Government of India, Pune.	Member
13. Chief Engineer (Lower Ganga Basin), Central Water Commission, Government of India, Patna	Member
14. Chief Engineer (Planning), Roads Wing, Ministry of Road Transport and Highways, Government of India.	Member
15. Director (Civil Engineering Wing), Railway Board, Government of India.	Member

Permanent Invitees of the Commission

- i) Chief Engineer, Incharge of Flood Control, Government of Haryana.
- ii) Chief Engineer, Incharge of Flood Control, Government of Himachal Pradesh.
- iii) Chief Engineer, Incharge of Flood Control, Government of Rajasthan.
- iv) Chief Engineer, Incharge of Flood Control, Government of NCT of Delhi.
- v) Director (B&S) R.D.S.O., Ministry of Railways, Lucknow.

1.5 Functions of GFCC

The functions of GFCC as originally envisaged are as under

- (a) Preparation of comprehensive plan for flood control in the Ganga Basin.
- (b) To chalk out a phased and coordinated programme of implementation of the works included in the basinwise plans by the States concerned.
- (c) Ensure proper standards of works and their regular maintenance.

Presently the broad functions of GFCC are as under:

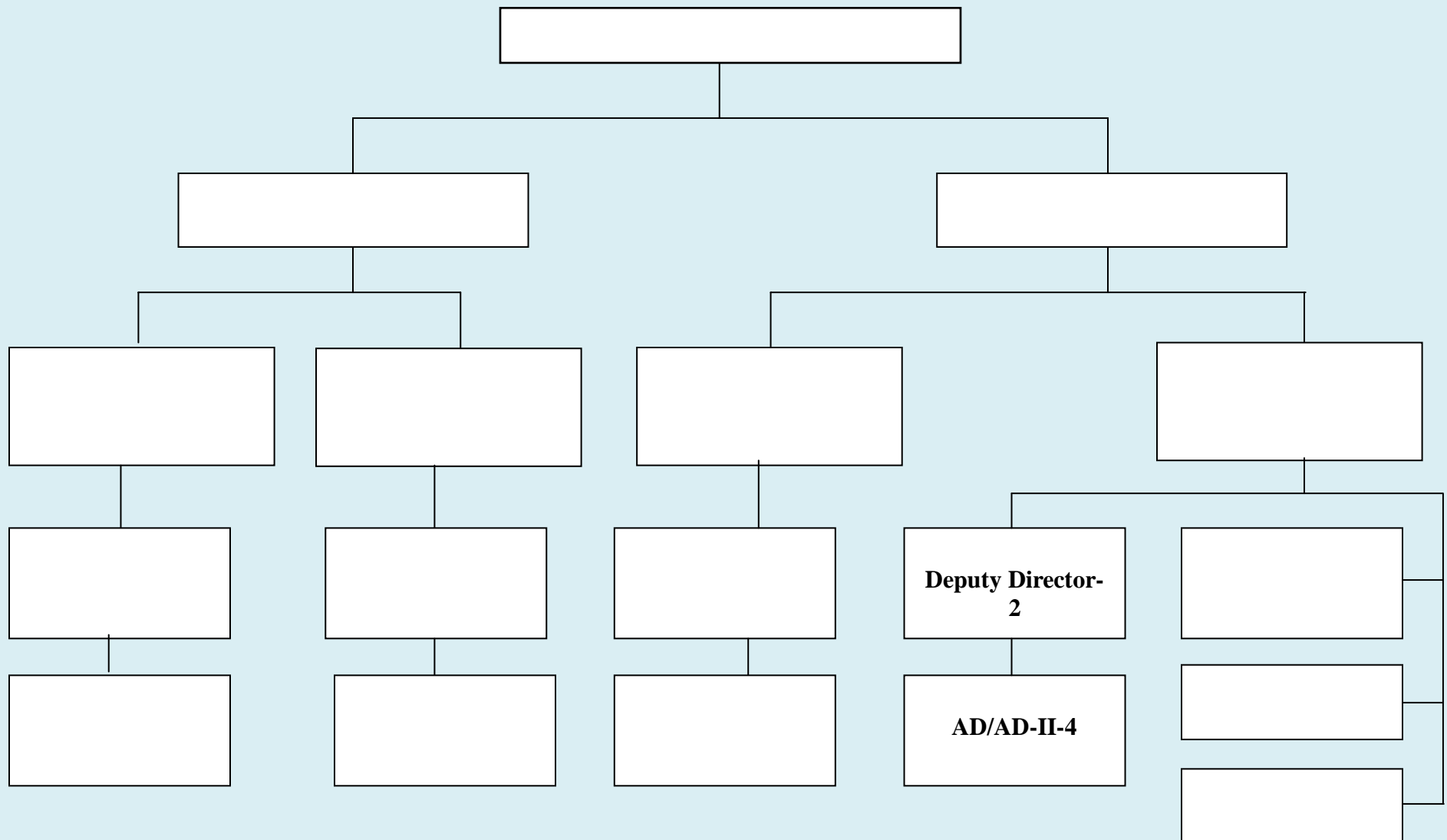
- To prepare a Comprehensive plan of flood management in the Ganga basin. The field investigation and collection of data for the purpose are carried out by the State Governments as directed by the Ganga Flood Control Board.
- To draw out a phased and co-ordinated programme of implementation of works included in the basinwise plans.
- To advise the states concerned to follow guidelines in respect of quality control, material specifications and maintenance in order to ensure the implementation of works and the maintenance thereof to proper standards.
- To prepare the annual programme of works and recommend allocation of funds, wherever required for consideration of the Board.
- To make an assessment of the existing waterways under the road and rail bridges and to determine additional waterways to be provided for reducing the drainage congestion to reasonable limits.
- To monitor the execution of the important flood control schemes particularly those receiving central assistance or being executed under the central sector.
- To examine all major and medium flood control, drainage, anti waterlogging and anti-erosion schemes of Ganga basin States except for schemes of the States of Haryana, Uttar Pradesh and Delhi on the river Yamuna in the reach from Tajewala to Okhla barrage.

- Documentation and dissemination of findings emerging out of special studies or investigations conducted in participation with scientific organisations for appropriate use by basin States.
- To evaluate the performance of major flood control measures executed by the States including all the inter-State flood control schemes.
- To participate in various National and International Committees set up by the Govt. of India and the Ganga basin States pertaining to the subject of flood management.

GFCC apart from being engaged in the preparation and periodic updation of comprehensive master plans for flood management in the Ganga basin is also the agency for techno-economic appraisal of flood management schemes in the Ganga basin. It has also been given the task of coordinating several activities concerning flood management with Nepal.

A total of 42 meetings of the GFCC have been held so far. The 42nd meeting of GFCC was held on 15th July 2010 at Bhopal (M.P). In the meetings, various issues pertaining to the Ganga Basin such as progress made in implementation of recommendations of Rashtriya Barh Ayog, preparation of flood plain zoning/flood risk maps, implementation of sub-basin wise comprehensive plans, monitoring and evaluation of flood management schemes, use of remote sensing techniques/satellite imageries for delineation of flood plain area, use of model studies before formulation and execution of flood management schemes, preparation of annual catalogue of flood management schemes etc. have been discussed and decisions taken thereon for follow up action by the Ganga basin States / Central organisations concerned.

GANGA FLOOD CONTROL COMMISSION ORGANISATION CHART



1.7 Staff Strength in GFCC

The staff strength of GFCC as on 31.3.2011 is 70 against the sanctioned strength of 101. The details of the posts sanctioned and filled up are given below.

S.No.	Group	Sanctioned	Vacant	Filled
1	A	23	6	17
2	B (Gazetted)	13	5	8
3	B (Non-Gazetted)	02	-	02
4	C	47	17	30
5	D	16	3	13
Total		101	31	70

In addition, 19 work-charged staff comprising of 3 drivers, 4 Work Assistants and 12 Khalasis are involved in various activities of GFCC.

All the Group 'A' posts and the posts in the grade of Assistant Director-II in Group 'B' are from the Central Water Engineering Group A & B Services respectively.

1.8 Vigilance and Disciplinary Cases

No vigilance or disciplinary case concerning any officer or staff was pending in the Commission during the year 2010-2011.

1.9 Parliament Questions and VIP References

1.9.1 Material for reply to 55 parliament questions was prepared during the year and sent to the Ministry of Water Resources.

1.9.2 Material for reply to 15 VIP references was prepared and sent to the Ministry of Water Resources during the year.

1.10 Implementation of RTI ACT, 2005

Ganga Flood Control Commission has implemented the directions as indicated in the RTI Act, 2005. The Commission has compiled and published manuals under clause 4(1)(b) of the Act and displayed them on the Website <http://gfcc.bih.nic.in>. The manuals provide all relevant information as required under the Act.

The Ganga Flood Control Commission has also designated one Appellate Authority, one Central Public Information Officer (CPIO) and 5 Assistant Public Information Officer (APIO) to look into the requests made by the applicants and supply

the information within stipulated time as provided in the Act. The names of the officers as on 31.03.2011 are as follows.

1	Sh.S. Masood Husain, Member (C)	Appellate Authority
2	Sh. S.K. Gangwar, Director (MP-II)	Central Public Information Officer
3	Sh. A.K. Sinha, A.D (C)	Asstt. Public Information Officer
4	Sh. Harsh Vardhan, AD-II (MP-I)	Asstt. Public Information Officer
5	Sh.M.Q. Jamal, AD-II (MP-II)	Asstt. Public Information Officer
6	Sh. S.K. Chaurasia, AD-II (P)	Asstt. Public Information Officer
7	Sh. Bipin Kumar Sinha, AD-II (Adm)	Asstt. Public Information Officer

During the year 2010-11 thirty four requests were received in GFCC through MOWR which were promptly replied directly to the applicant.

1.11 Financial Aspect

An expenditure of Rs. 453.34 lakh was incurred by GFCC during the year 2010-11. A statement showing sub-headwise final estimate and actual expenditure during 2010-2011 is given below:

(Amount in Rs.)

Sl.No.	Head of account	Final Estimate 2010-11	Actual Expenditure 2010-11
1	Salary	3,64,17,000	3,60,52,825
2	Medical	1,56,000	97,544
3	Travel Expenses (Domestic)	24,50,000	23,83,483
4	Travel Expenses (Foreign)	1,28,000	37,084
5	Office Expenses	7,19,000	6,76,856
6	Minor Works	40,00,000	39,04,671
7	Machinery & Equipment	22,00,000	21,82,099
	TOTAL	4,60,70,000	4,53,34,562

Chapter-2

Comprehensive Plans for Flood Management

2.1 Preparation of Comprehensive Plans for Flood Management

In the Ganga basin area covering eleven States, floods in some part or the other are an annual feature. On account of the inadequacy of the protection works carried out so far, large scale damage due to floods often occurs. It was therefore felt necessary to prepare an integrated plan to tackle the floods, erosion and drainage problems in the basin and implement it in a coordinated manner. It was with this in view that GFCC was set up to prepare Comprehensive Plans for flood management for the Ganga basin. The entire Ganga basin is divided into 23 river systems and comprehensive plans for flood management of all these river systems have been completed between 1975 and 1990. These comprehensive plans were then circulated to the State Governments concerned for preparing specific schemes for implementation in order of priority.

2.2 Updating of Comprehensive Plans for Flood Management

Due to changes in the behaviour of the rivers in the Ganga basin and for other reasons, it was considered necessary to update the Comprehensive Plans for flood management of all the river systems. This work was started in 1986 and till March, 2010, GFCC has updated comprehensive plans for twenty two river systems.

The updated comprehensive plans were also circulated to the State Governments concerned for further follow-up action.

During the year 2010-11, the updating of Comprehensive plans of the Kosi river system was under finalisation. The work of updating of comprehensive plan for Rupnarayan Haldi Rasulpur was taken up during the year.

2.3 Monitoring of Floods and Preparation of Flood Reports

The flood situation in the year 2010 in Ganga Basin States was monitored and 18 weekly reports were sent to the Ministry of Water Resources.

The statewise summary of flood situation during 2010 in Ganga Basin States is as under:

Uttar Pradesh

Rivers namely the Ram Ganga, the Ghaghra, the Sharda, the Rapti, the Yamuna and the Ganga remained above the danger level for a long period which caused damages.

In Uttar Pradesh 12 human lives were lost during this flood.

Bihar

The northern part of Bihar was affected by the floods. The rivers namely the Gandak, the Burhi Gandak, the Bagmati, the Kamla Balan, the Kosi, the Mahananda and Ghaghra remained above the danger level for a long period at different sites causing wide spread damages. Apart from these rivers the Ganga also flowed above the danger level at many sites.

In Bihar during the 2010 flood, out of 38 districts, 8 districts namely Supaul, Muzaffarpur, Katihar, Gopalganj, Saharsa, Madhubani, Purnea and West Champaran were affected by the floods. A total of 7.22 lakh population and 32.42 lakh ha. cropped area in the 8 districts were affected by flood. A total of 3693 houses were damaged. The number of human and cattle lives lost were 94 & 2 respectively.

Breach in Gandak embankment

Saran embankment is located on the right bank of river Gandak starting from Hajipur at the downstream end up to 152 km towards the upstream side. This embankment between RD 122.75 km to RD 122.95 km faced serious threat from river Gandak particularly from 7.9.2010 and ultimately breached on 19.9.2010 causing wide spread damages in the nearby area.

West Bengal

In West Bengal mainly the river Damodar remained above the danger level at Ramgarh . A total of 2.387 lakh population and 1326 ha. cropped area was affected by the floods. 112 human lives and Seven (7) cattles were lost during the flood. A total number of 26509 houses were also damaged.

Haryana

In Haryana, mainly the river Yamuna remained above the danger level for a long period during the flood. A total of 17.340 lakh population and 2.212 lakh ha. cropped area were affected by the floods. A total of 5362 houses were damaged. Sixty seven (67) cattle and 38 human lives were lost in the flood.

Himachal Pradesh

Total of 10,300 population and 198 ha. cropped area was affected by the flood. 8 human lives and 114 cattle were lost. A total of 656 houses were damaged.

Chapter-3

Assessment of Adequacy of Waterways under Road and Rail Bridges

3.1 One of the functions of GFCC is the preparation of reports on adequacy of waterways under the road and rail bridges. GFCC has often been called upon to examine the adequacy or otherwise of the waterways under existing rail and road bridges by the Ministry of Railways and also by the Ministry of Road Transport and Highways. This exercise is aimed at determining additional waterways required for reducing drainage congestion to a reasonable limit. This activity which commenced during the later half of the eighties has been completed except for the some stretches of the Ganga main stem.

These reports have also been circulated to the Ganga basin States and departments of Central and State Governments concerned for follow up action.

During 2010-11, the survey work of adequacy of waterways under road and rail bridges on the Ganga main stem from Haridwar to Buxar was completed. The draft report for the Ganga main stem from Sahebganj to outfall into the Bay of Bengal has been finalised.

Chapter-4

Flood Management Programme

Due to unprecedented floods in Bihar, Assam and West Bengal and consequent large scale damages in these States in the year 2004, Government of India under the direction of Hon'ble Prime Minister of India, keeping in view the seriousness of the flood problem and consequently the grave situation created on the ground, constituted a Task Force for Flood Management/Erosion Control headed by the Chairman, Central Water Commission, New Delhi to look into the problem of recurring floods in Assam and neighbouring states as well as Bihar, West Bengal and Eastern Uttar Pradesh in August 2004. The Task Force deliberated upon various issues relating to floods in these States and taking into account the prevailing situation on the ground, suggested various measures for controlling flood/erosion. The report of the Task Force was submitted to the Ministry of Water Resources in December, 2004 .

Keeping in view the recommendations of Task Force and other similar Committees, a plan scheme titled Flood Management Programme amounting to Rs.8000 crore under the state sector was drawn up for implementation during the XIth Plan period. This plan scheme covers the works of flood management, river bank-erosion, sea erosion, drainage development and flood proofing. The financial approval of the individual schemes is given by an Empowered Committee headed by the Secretary (Expenditure), Ministry of Finance, Govt. of India taking into consideration the critical and emergent situation and availability of annual budget/plan outlay and provision of state share and central share by the respective State Govt. Besides Ministry of Finance the Committee has representatives from the Ministry of Water Resources, Ministry of Development for North Eastern Region (DONER), Ministry of Environment & Forests and Planning Commission.

The detailed schemes for flood management are formulated and submitted by the implementing States to the concerned appraising agency for techno economic appraisal as per the prevailing guidelines laid down by the Planning Commission.

The central assistance is provided to the State Govts. on the following funding pattern:

- (i) For special category States – 90%.
(The special category States cover the North Eastern States, Sikkim, Himachal Pradesh, Jammu & Kashmir and Uttarakhand)
- (ii) For non-special category States – 75%.
- (iii) For restoration of damaged works, the central assistance can be provided upto 90%.

Financial and physical management, quality control, timely completion of the work etc. are the responsibility of the State Government/implementing agency.

The schemes under flood management programme are to be monitored by the Central Water Commission (CWC), Ganga Flood Control Commission (GFCC) and Brahmaputra Board (BB) in their respective jurisdiction. The Department of Space/NRSA are also associated in monitoring of physical progress of the works through remote sensing techniques.

After the completion of work, performance evaluation studies are conducted by independent agencies in consultation with CWC/GFCC/Brahmaputra Board as the case may be.

Schemes taken up for execution State wise with their status :

The details of the FMP schemes taken up (Statewise) and their progress during the XIth Plan are given below:

Sl. No.	Name of State	No. of Schemes taken up for execution	No. of schemes completed up to 2008-09	No. of schemes completed during 2009-10	No. of schemes completed during 2010-11	No. of schemes under progress as on 31.03.2011
1.	Bihar	41	2	20	7	12
2.	Jharkhand	1	-	-	-	1
3.	West Bengal	11	-	1	1	9
4.	Uttar Pradesh	19	-	3	1	15
5.	Uttarakhand	5	-	-	3	2
6.	Himachal Pradesh	1	-	-	-	1
	Total	78	2	24	12	40

Visit of Hon'ble Union Minister of Water Resources to erosion sites on Ganga and ongoing FMP Schemes in Uttar Pradesh

To look into the problem created by floods and inspect the flood control works being implemented by Govt. of Uttar Pradesh under FMP in the areas around the main course of river Ganga, the Hon'ble Union Minister (Water Resources) undertook a tour from Garhmukteshwar to Farrukhabad on 26th & 27th March, 2011. During the visit he inspected the schemes being implemented under FMP at Anupshahar on river Ganga and erosion sites on Ganga in Farrukhabad district. An inspection report for the purpose was prepared and submitted to Ministry of Water Resources

Chapter- 5

Appraisal of Flood Management Schemes

5.1 Techno-economic appraisal of flood management schemes received from the Ganga basin States is an important activity of GFCC. Schemes estimated to cost between Rs. 7.5 crore and Rs.15 crore are examined by GFCC for their techno-economic viability and, if found acceptable, are cleared by GFCC itself and recommended to the Planning Commission for investment clearance. Schemes costing less than Rs. 7.5 crore are cleared at the State level by the State Flood Control Boards. Schemes costing above Rs. 15 crore if found acceptable , after appraising them for their techno-economic viability are recommended by GFCC, to the Advisory Committee of the Ministry of Water Resources for Irrigation, flood control and multi purpose projects for clearance.

Normally, GFCC does not examine schemes costing less than Rs. 7.5 crore. However, in special cases, such as schemes on emergent flood protection works in the Eastern Sector on common border rivers with Bangladesh, Ministry of Water Resources, Government of India issued an instruction that GFCC would scrutinize such schemes on the common border rivers with Bangladesh and make recommendations to MoWR for release of funds . In addition, all central sector schemes irrespective of cost are however examined from techno-economic aspect in GFCC.

5.2 The details of schemes examined during 2010-11 and their status are given below:

S. No	Name of Scheme	Estimated Cost in Rs. Crore	Status
BIHAR			
1	Anti-erosion work for the protection of Ismailpur Bindtoli embankment and spurs situated on the left bank of river Ganga in D/s of Vikramshila setu	14.92	Scheme cleared techno-economically
2	Raising & Strengthening of PD Ring Bandh and anti-erosion work at Koerpatti between 27 mile to 32 mile of Champaran Embankment in the district West Champaran	19.8	-do -
3	Bagmati Flood Management Project Phase II	596.51	- do -

S. No	Name of Scheme	Estimated Cost in Rs. Crore	Status
4.	Anti-erosion work between km 122.15 and km. 124.25 along with breach closure of Saran embankment and excavation of Pilot channel in Diara land with screening and raising and strengthening of Pathara Chharki with revetment from 0.30 km to 1.80 km and excavation of Pilot channel at Bhujli and Dharampur village with Screening along right bank of river Gandak in Gopalganj district of Bihar	5714.76	-do-
5	Anti-erosion work between km 0.00 and km 35.00 of Pipra Piprasi embankment, between km 0.00 and km 7.026 of TRL-4 and between km0.00 and km 3.50 of G H Portion of Pipra Piprasi Embankment along right bank of river Gandak	2173.45	-do-
6	Construction of new embankment and anti-erosion works with brick soling road of Bagmati left and right embankment from 53.16 km to 76.48 km and from 56.97 km to 83.85 km and Lakhandei from confluence point to upstream railway bridge	437.2	Observations sent to State Govt. Revised scheme submitted as given at sl.no.3.
7	Raising & strengthening of left and right embankment of Chandan river system	316.66	Scheme appraised & observations sent to State Govt.
8	Construction of ring bund for protection of Sitab Diara (Jai Prakash Nagar) in Saran district.	9.56	- do -
9	Anti-erosion scheme for protection of right bank of river Ganga from crematorium to Engineering College, Bhagalpur (D/S of Vikramshila Setu)	12.62	- do -
10	Restoration and gap closure of Buxar Koelwar Ganga right embankment under Sector A, B & C	30.07	- do -
WEST BENGAL			
1.	Protection to the bank of river Nagar near Gowalgachh, Nandangachh and Baraguria BOP Camps. (R/B) P.S. Islampur, near Chakiagarh and proposed Gowalingaon BOP Camps (R/B) P.S. Goalpokhar, near Khurka BOP Camp(RB) P.S. Karandighi and near Basatpur BOP Camp (L/B) P.S. Raiganj, along the Indo-Bangladesh Boarder in the distt. Of Uttar Dinajpur (Length 2080m)	7.93	Scheme cleared techno-economically

S. No	Name of Scheme	Estimated Cost in Rs. Crore	Status
2.	Protection to the L/B of river Atrai against erosion upstream and downstream of BSF Camp at Samijhia in P.S. Kumaraganj, district Dakhsin Dinajpur (Length 700 m)	3.91	-do-
3.	Protection to the R/B of river Karatoya from erosion nearDangapara BOP Camp and border fencing along the Indo-Bangladesh border in P.S. Chopra, district Uttar Dinajpur (Length 300 m)	1.29	-do-
4.	Bank protection work on the R/B of river Punarbhaba at village Khutadaha in BOP Khutadaha in Block & P.S. Bamongola, district Malda (Length 1000m)	11.06	-do-
5.	Bank protection work on the R/B of river Punarbhaba at village-Battali in BOP Battali in Block & P.S. Bamongola, district Malda (Length 1000m)	11.16	-do-
6.	Bank protection work on the R/B of river Punarbhaba at village –Battali in BOP battali in Block P.S. Bamongola, district Malda (Length 1200m)	13.30	-do-
7.	Bank protection work on the R/B of river Punarbhaba at village-Nandinadahain Mouza Nadinadaha in BOP Taltali in Block & P.S. Bamongola, district Malda (Length 800m)	8.88	-do-
8.	Protection to the R/B of river Tangon near Padmakumari, Chandgaon BOP Camps in P.S. Kaliganj, distt. Uttar Dinajpur (Length 845 m)	4.53	-do-
9.	Protection to the L/B of River Kulik near Maheshgaon BOP Camps in P.S. Hemtabad, distt. Uttar Dinajpur (Length-300m)	1.57	-do-
10.	Protection to the R/B of river Nagar from erosion near Barabilla and Teengaon BOP Camps and border fencing along the Indo-Bangladesh Border in P.S. Goalpokher, distt Uttar Dinajpur (Length 700m)	2.24	-do-
11.	Desilting of river Ichamati along the Common Border in the reach from Barnaberia to BSF bridge at Kalanchi from 120.00 km to 140415 km in distt.Jessore, Bangladesh	38.23	-do-
12.	Master Plan and DPR for Ghatal and adjoining area	1550.00	Scheme examined & comments sent to State Govt.

S. No	Name of Scheme	Estimated Cost in Rs. Crore	Status
13	DPR for improvement of embankments and ancillary works in Kandi and other adjoining area of Distt. Murshidabad	337.73	-do-
UTTAR PRADESH			
1	Project for construction of 10 regulators across various embankments along left and right banks of river Rapti in Siddharthnagar district	7.29	Scheme cleared techno-economically
2	Project estimate for protection of T.S. bund by constructing anti-erosion works between km 68.200 to km. 70.200 in District Ballia	10.11	-do-
3	Scheme for flood protection works along left and right bank of river Gurra in the district of Deoria (U.P.)	12.58	-do-
4	Project for flood protection works along right bank of river Sarda in u/s and d/s of Sarda Barrage at Banbasa in Distt Champawat	13.82	-do-
5	Schemes for flood protection works along left and right bank of river Rapti	52.29	Scheme cleared techno-economically
6	Project for flood protection works along left and right bank of river Ganga in the district of Allahabad and Balia	26.99	Scheme examined and comments sent to State Govt.
7.	Project for flood protection along left bank of river Ramganga in distt. Bareilly	14.41	-do-
8	Scheme for flood protection works along Kho river in distt. Bijnore	14.50	-do-
9	Revised project for construction of Balrampur-Bhadaria bund along right bank of river Rapti in Balrampur district	25.61	-do-
10	Revised project for construction of Karmahna-Bhojpur bund along left bank of river Rapti in Balrampur district	12.03	-do-
11.	Scheme for flood protection works to protect village, town and barrage at river Sharda in districts Pillibhit and Lakhimpur	33.95	-do-

S. No	Name of Scheme	Estimated Cost in Rs. Crore	Status
12	Schemes for flood protection works along right bank of river Gandak in distt. Maharajganj and Kushinagar	19.58	-do-
13	Scheme for construction of marginal embankment upstream of Elgin bridge along right bank of river Ghaghra in distt. Barabanki and Sitapur	168.17	-do-
14	Flood protection works of historical village Karnvas situated on right bank of river Ganga in Bulandshahar district	11.22	-do-
15.	Flood protection works between dampener DS-2 to Sewerage treatment plant situated in downstream of Anup Shahar city on right bank of river Ganga in Bulandshahar district	11.24	-do-
16.	Scheme for construction of Ramganga embankment from Kothiwal Dental College to Bypass Road Bridge along right bank of river Ramganga in distt. Moradabad	100.79	-do-
17.	Flood protection works between km 24.650 to km 25.900 of Ballia-Bairia bund along left bank of river Ganga in distt. Ballia.	8.08	Under examination in GFCC
18	Scheme for flood protection works along left and right bank of river Ghaghra in distts Bahraich, Gonda, Barabanki, Faizabad, Basti, Azamgarh and Deoria	172.86	-do-
19	Flood protection works between km 19.50 to km 21.00 of Alinagar-Ranimau bund along right bank of river Ghaghra in district Barabanki	19.03	-do-
20.	Scheme for construction of marginal embankment along left bank of Gomti from Ataria-Khanipur road to Chandrika Devi Mall Road km 0.00 to km 12.600	14.70	-do-
21.	Scheme for construction of anti-erosion works between Bridge no.97 and Spur no.0 of Bheera-Palia Railwayline along left bank of river Dharda in Lakhempur Kheri district.	18.83	-do-
22.	Scheme for construction of balance work of embankment (under construction) from Sharda Nagar to Aiera Bridge along left bank of river Sharda in Lakhempur Kheri district	26.50	-do-

S. No	Name of Scheme	Estimated Cost in Rs. Crore	Status
23.	Scheme for construction of balance works of embankment (under construction) from Aiera Bridge to Ambarpur along left bank of river Sharda in Lakhempur Kheri district	28.19	-do-
24.	Project estimate for constructing retired bund between km 12.700 to km 14.00 of Sakraur Bhikharipur bund, restoration work of spurs at km 0.950 of retired bund-1 and at km 11.600 and km 13.600 of main bund, anti erosion works between km 0.650 of retired bund-1 to km 13.600 of main bund and filling of cut between km 21.130 to km 21.170 of Sakraur Bhikharipur bund along left bank of river Saryu/Ghaghra in Gonda district	53.18	-do-
UTTARAKHAND			
1	Project for flood protection of village Shyampur along Bangla Nala and village Shyampur-Garhi along Goila Nala tributaries of river Ganga, Rishikesh Dist. Dehradun	10.58	Scheme cleared techno-economically
2	Project for flood protection of ITITI jhajhar along Tons river and villages along five tributaries of Yamuna Basin in dist. Dehradun	10.65	-do-
3	Revised Project estimate for construction of right bund on river Ganga from Bhogpur to Balawali, Dist. Haridwar	20.69	-do-
4	Flood protection scheme of village (between Jatowala to Kunjagrang) in Vikasnagar block, distt: Dehradun	74.55	Scheme examined and comments sent to State Govt.
5	Flood protection scheme of villages from Yamuna river (between Yamuna river Barrage Dakpathar to NH-72 Kulhal-Paonta Sahib bridge) in block Vikasnagar in Distt. Dehradun	60.48	-do-
6	River training works (marginal bund and studs) for protection of population of villages situated along banks of river Ganga in dist. Haridwar	32.31	-do-
7	River Training Works (Marginal Bundh and Studs) for protection of population of villages and agricultural land situated along both banks of river Solani in Dist Haridwar	33.06	-do-

S. No	Name of Scheme	Estimated Cost in Rs. Crore	Status
8	Flood protection schemes of villages Langha to Jamankhata near NH-72 from Gayana Khadd and Sheetla river in block Vikasnagar dist. Dehradun	17.24	-do-
9	Project for Flood Protection Scheme on Kali river and its tributaries in Pithoragarh Distt. of Uttarakhand	7.94	-do-
10.	Flood protection scheme in distt. Udham Singh Nagar to protect Khatima and Sitarganj area from Ramnagar Rivers's tributaries	13.29	-do-
HIMACHAL PRADESH			
1.	Channelisation of Tributaries of Bata River Phase-II (Sudanwala, Konthriya and Mandi Khala) in Tehsil-Paonta Sahib, Distt-Sirmour (H.P.)	13.93	Scheme examined and comments sent to State Govt.

Summary status of appraisal of schemes

State	Schemes cleared	Schemes examined and comments sent to State Govt	Schemes under examination
Bihar	5	5	-
Jharkhand	-	-	-
West Bengal	11	2	-
Uttar Pradesh	5	11	8
Uttarakhand	3	5	2
Himachal Pradesh	-	1	-
Total	24	24	10

Chapter-6

Monitoring of Ongoing Flood Management Schemes

GFCC monitors flood management schemes under Central funding for their physical and financial progress and monitoring reports are sent to the Ministry of Water Resources regularly. During the year 2010-11, FMP schemes as per the details given below were monitored by GFCC officers and monitoring reports were prepared and sent to Ministry of Water Resources:

Sl. No.	Scheme Code	Name of Scheme	Approved Cost (Rs. in Lakh)
BIHAR			
1	BR-01	Raising and strengthening of Kamla embankments	5209.26
2	BR-06	Anti-erosion scheme at 119.58 km to 120.78 km of Saran embankment near Batardeh village	680.00
3	BR-09	Raising, strengthening balance reaches of Tirhut embankment from 29.61-83.40 km	2627.65
4	BR-11	Anti-erosion work on Pipra Piprasi embankment between 0.00 km to 35.0 and GH portion between 0.00 km to 6.68 km	920.97
5	BR-12	Brick soling on the top of Champaran Embankment in between 32.24-132.40 km.	1492.81
6	BR-13	Brick soling road on Saran Embankment from 35.20 km to 80.00 on right bank of river Gandak	957.53
7	BR-19	Khagaria town protection scheme Part-II	1339.18
8	BR-20	Khagaria town protection scheme Part-III	550.86
9	BR-21	Raising & strengthening of Pipraa-Piprasighat embankment and GH portion in Bihar	1471.6
10	BR-26	Anti-erosion work on left bank of right channel of river Ganga in Raghapur diara	665.68
11	BR-28	Anti-erosion works near village Gorghat on Mani river	339.39
12	BR-31	Raising & strengthening of Kosi embankment in Bihar	33900.00

Sl. No.	Scheme Code	Name of Scheme	Approved Cost (Rs. in Lakh)
13	BR-32	Raising, strengthening and extension of Bhutahi balan embankment	3714.00
14	BR-33	Anti erosion work at Rustampur, Jafarabad-Jahangirpur and Jafarabad-Sukumarpur village in Raghobpur diara along river Ganga in the district Vaishali	1391.00
15	BR-34	Anti erosion work at Paharpur Manorath, Bangara, Barar, Gayee tola in between 5.00 to 6.00 mile of Tirhut embankment along river Gandak in Muzaffarpur district	813.00
16	BR-35	Anti erosion scheme at left bank of River Ghaghra in districts Siwan and Chapra (Bihar)	1059.00
17	BR-36	Anti erosion work between Ch 135-160 (Sector B) near village Kewatia, 143-160.38 ch. Near village Majharia and 1491-1505.75 ch near village Nainijore (Sector – C) of BKG embankment on right bank of river Ganga in districts Bhojpur and Buxar	755.00
UTTAR PRADESH			
1	UP-01	Construction of embankment along right side of Ami river from Kauriram to Khajni-Gorakhpur road distt; Gorakhpur	1307.27
2	UP-02	Construction of embankment along left side of Ami river from Kauriram to Khajni-Gorakhpur road distt; Gorakhpur	1294.94
3	UP-04	Construction of Mahadeva Uska bund along right bank of river Kunra in distt. Siddharthnagar	1033.00
4	UP-08	Protection of village group Nordara, Bhusaula and BST bund on the left bank of river Ganga in the district of Ballia	945.00
5	UP-12	Project of flood protection works along left and right bank of river Ghaghra in the distts. of Bahraich, Barabanki, Gonda, Basti, Faizabad and Mau	11000.00
6	UP-13	Project for flood protection works along right bank of river Gandak in the distts. of Kushinagar, UP.	4450.20
7	UP-14	Scheme for flood protection work on left and right bank of river Ganga in the distts. of J.P. Nagar, Shahjahanpur, Merrut and Bulandshahar	3241.70
8	UP-16	Scheme for flood protection works on R/B of river Ghaghra in district Lakhimpur Kheri	3040.00

Sl. No.	Scheme Code	Name of Scheme	Approved Cost (Rs. in Lakh)
9	UP-17	Scheme for flood protection works along left and right bank of river Sarada in distt. Lakhimpur Kheri	2504.00
UTTARAKHAND			
1.	UK-01	Revised project estimate for construction of right bund on river Ganga from Bhogpur to Balawali, Distt: Haridwar	2069.49
2	UK-02	Flood protection work of village Bhogpur along Bangala nala in distt; Dehradun	361.90
3	UK-03	Construction of embankment along song river to protect village Hilaswali, Maldeota, Chakjogiwai, Sahabanagar and Khadri	747.11
4	UK-04	Flood protection work of village Nehrugram, Minyawala and Sunderwala along Dulhani River in distt. Dehradun	566.60
HIMACHAL PRADESH			
1	HP-1	Channelisation of Bata river from RD 10230 to RD 19700 m in Tehsil-Paonta Sahib, Distt-Sirmour	3467.38
WEST BENGAL			
1	WB-09	Raising & strengthening of severely damaged Sunderban embankment of mouza Haripur, Tatala and at Mouza Indrapur along Saptamukhi river in P.S.Namkhana and in P.S Pather Pratima, District-South 24 Parganas.	463.57
2	WB-10	Retirement of severely damaged Sea-dyke and protection by revetment with concrete block pitching at mouza Gobardhanpur facing Bay of Bengal in distt. South 24 Parganas	616.98
3	WB-11	Raising & strengthening of Sundarban embankment at mouza 7 nos. Sonakhali on left bank of river Hogal, near Besauti Bazat and at mouza Chandipur near confluence of river Bidya, Kartal and river Mridangalbhangha and mouza Purba Sripathnagar along R/B of river Thankuran in District South 24 Parganas	1085.18

Sl. No.	Scheme Code	Name of Scheme	Approved Cost (Rs. in Lakh)
4	WB-12	Raising and strengthening of Sundarban embankment at mouza Patibonia (in AB & BC, CD&DQ reach) facing Bay of Bengal in distt; South 24 Parganas	1498.61
5	WB-13	Raising & strengthening of Sundarban embankment along right bank of river Matla at mouza Kaikhali, in distt; South 24 Parganas	948.29

Based on the monitoring reports and recommendation of GFCC, the Ministry of Water Resources released a total amount of Rs.558.41 Crore to the State Governments of Bihar, Jharkhand, Uttarakhand, Himachal Pradesh, Uttar Pradesh and West Bengal during 2010-11. The total fund released upto 2010-11 under the Flood Management Programme is Rs. 1350.35 crore. The break up is given below:

(Amount in Rs Crore)

Sl No.	State	Total Central Share	Amount released in 2007-08	Amount released in 2008-09	Amount released in 2009-10	Amount released in 2010-11	Total
1.	Bihar	960.16	65.27	131.61	210.94	127.17	534.99
2.	Jharkhand	16.46	-	7.37	4.53	-	11.90
3.	Uttarakhand	41.42	3.47	8.22	4.70	10.24	26.63
4.	Himachal Pradesh	31.21	0.67	-	16.20	-	16.87
5.	Uttar Pradesh	375.43	5.25	-	112.89	63.77	181.91
6.	West Bengal	1349.81	1.39	4.23	215.21	357.22	578.05
	Total	2774.49	76.05	151.43	564.47	558.40	1350.35

Note - The amount released includes the releases for spilled over schemes of Xth Plan also .

Chapter -7

River Management Activities and Works Related to Border Areas

During the XI Plan period, Ministry of Water Resources has undertaken a plan scheme titled “River Management Activities and Works related to Border Areas” for water resources development and flood management activities. The scheme includes provision for taking up maintenance of flood protection works of Kosi and Gandak projects and bank protection works on common/border rivers between India and Bangladesh.

7.0 Maintenance of Flood Protection Works on Kosi and Gandak Projects

7.1 Protection Works on Kosi

The Kosi High Level Committee (KHLC) was constituted by the then Irrigation Deptt. Government of Bihar in the year 1978 under the Chairmanship of Chairman, GFCC to review/examine the protection works already executed on the river and recommend protection measures to be taken before the next flood season. Since then the Committee is inspecting every year the protection works taken up on the river and is making recommendations regarding protection work to be executed on the river before the next flood season. The State Government executes the schemes on the basis of the recommendations of the Committee.

The present Composition of the Committee is given below:

- | | |
|---|----------|
| 1. Chairman, GFCC, Patna. | Chairman |
| 2. Member (River Management), Central Water Commission, New Delhi or his representative | Member |
| 3. Director, CWPRS, Pune or his representative. | Member |
| 4. Engineer-in-Chief (North), Water Resources Deptt., Government of Bihar. | Member |
| 5. Chief Engineer, Water Resources Deptt., Government of Bihar, Darbhanga. | Member |
| 6. Chief Engineer (Research), Water Resources Deptt., Government of Bihar, Khagaul. | Member |

- | | | |
|-----|---|------------------|
| 7. | Chief Engineer (Hydrology & Project Planning), Water Resources Deptt., Government of Bihar. | Member |
| 8. | Director, Eastern Region, Water Resources Deptt., Govt. of Nepal, Biratnagar. | Member |
| 9. | Dy. Director General, Water Resources Deptt., Govt. of Nepal, Kathmandu. | Member |
| 10. | Chief Engineer, Water Resources Deptt., Government of Bihar, Birpur. | Member-Secretary |

Like in previous years, the KHLC inspected the protection works in November 2010 and recommended works to be carried out before the floods of 2011.

The expenditure incurred by Government of Bihar on protection works in Nepal, is reimbursed in full by Government of India under a central scheme. The reimbursement is made based on the expenditure statement received from the Government of Bihar for the amount involved in protection of the river Kosi in the Nepal portion.

During the year 2010-11, an amount of Rs 20.87 crore was reimbursed to the Government of Bihar for works in the Nepal portion based on the expenditure statement furnished by Water Resources Department, Govt of Bihar. The total amount provided during the XIth Plan is Rs. 36.68 crore.

Kosi Breach Closure Works

A breach in the Eastern Afflux Bund at 12.00 km. at Kusaha in Nepal occurred on 18th August, 2008. The GFCC took a lead role in providing technical assistance in the Kosi breach closure works that were carried out in the Eastern Afflux bund of Kosi Barrage as well as monitoring of execution of works. The breach closure work along with its strengthening has been completed in June 2009 with 100% central assistance. The total fund provided to Water Resources Deptt, Govt. of Bihar for this work is Rs.115.0 crore. Out of which Rs.7.4487 crore was provided during the year 2010-11.

7.2 Protection Works on Gandak

A similar Committee for the river Gandak namely Gandak High Level Committee (GHLC) was initially constituted by the then Ministry of Irrigation, Govt. of India vide office memorandum No.10/12/80-FC dated 12th November, 1981 to evaluate the performance of flood protection works on the right bank of the river Gandak in the States of Uttar Pradesh and Bihar during 1981 floods, to guide and advise construction activities in the two States and to suggest programme of works for the year 81-82. The term of the committee was extended from time to time. This Committee has been renamed as Gandak High Level Standing Committee (GHLSC) vide Ministry of Water Resources letter no. 5/15/2002-ER/Ganga /1219-27 dated 21.03.2006.

The terms of reference of the Committee are:

- To review the flood control and anti-erosion works so far executed by the State Governments of U.P and Bihar and evaluate their performance during the floods.
- To recommend a programme of works which could be executed by the two States in a coordinated manner.
- To guide the construction activities in the States and advise on the steps to be taken to get over any difficulties that may arise with a view to ensure that all the necessary works are completed by the States latest by June each year.

The Chairman, GFCC is the Chairman of the Committee. The composition of the GHLSC is given below:

1.	Chairman, GFCC, Patna	Chairman
2.	Engineer-in-Chief, Water Resources Deptt., Government of Bihar.	Member
3.	Engineer-in-Chief, Irrigation Department, Government of U.P.	Member
4.	A Representative from Central Water and Power Research Station P.O.-Khadakwasla, Pune.	Member
5.	Chief Engineer (Research), Irrigation Research Institute, Government of Bihar, Patna.	Member
6.	Director, Irrigation Research Institute, Government of Uttarakhand, Roorkee.	Member
7.	Director(Co-ordination), GFCC, Patna.	Member-Secretary

Since its constitution, 43 meetings of the Committee have been held upto 2010-2011 and recommendations were made for protection works to be executed before the next floods. The respective State Govts. executed the works as per recommendations of the Committee.

During the year 2010-11, the meeting/site inspection by the Committee was held in the month of December, 2010 and recommendations were made for the works to be carried out before the floods of 2011. The expenditure made by Government of U.P.in Nepal portion for maintaining the flood protection works on the right bank of the river Gandak is reimbursed by the Government of India.

During the year 2010-11, the statement of actual expenditure amounting to Rs.13.20 crore for works in Nepal portion submitted by Govt. of U.P was examined and comments sent for compliance. The reply from the Irrigation Deptt, U.P. is awaited.

7.3 Schemes on Common / Border rivers in West Bengal

India shares 54 rivers with Bangladesh. At many places, these rivers have a tendency to shift their course by eroding the banks on either side. Sites of active erosion are identified by both the countries and the bank protection works for such sites are finalized by consultation among the two countries.

Twentyfour (24) such sites have been identified in Ganga Basin, which lie on seven rivers, namely, Mahananda, Nagar, Punarbhaba, Atrai, Kulik, Karatowa and Tangon. Irrigation and Waterways Department, Government West Bengal is taking up bank protection work for such sites under the above plan scheme.

A total of thirteen (13) schemes for bank protection works at the above 24 sites on common / border rivers have been taken up by the State Govt. with funding under the Central Plan scheme "River Management Activities and Works Related to Border Rivers". Out of this, three (3) nos. of schemes have been completed so far.

In addition, a scheme for de-silting of river Ichamati along the Indo-Bangladesh Border has also been taken up and is under progress.

The yearwise status of funding under the above mentioned plan scheme is as under :

(Rs. in crore)

Sl. No.	State	Amount released in 2007-08	Amount released in 2008-09	Amount released in 2009-10	Amount released in 2010-11	Total
1.	West Bengal	NIL	NIL	17.51	71.31	88.83

Chapter - 8

Cooperation with Neighbouring Countries

8.1 India-Nepal Cooperation

Several rivers like the Gandak, the Bagmati, the Kamla, the Kosi etc. originate in Nepal and flow through the hilly tracts of Nepal before entering the plains of India. Heavy rains in the upper reaches not only bring floods of large magnitude but also carry huge quantities of sediment to the plain reaches of India. Hence any measures to be taken up to alleviate the flood and silting problem are to be done in an integrated manner with proper co-ordination between the two countries. GFCC is playing a vital role in this context by providing all the technical know-how and guidance.

As floods in Bihar and U.P are generally caused by the rivers coming from Nepal, long term solution to the problem of flood lies in the watershed management and construction of multi-purpose projects with flood cushion in the upper reaches to achieve flood moderation. Since suitable sites to locate reservoir/dams to control the floods lie in Nepal, the construction of these dams/reservoirs on these rivers is subject to agreement with Govt. of Nepal.

Govt. of India is having continuous dialogue with the Govt. of Nepal to mitigate the devastation caused by the flood from the rivers coming from Nepal. In order to have interaction at higher level pertaining to the cooperation in the field of water resources including implementation of existing arrangement and better understanding , India-Nepal Joint Committee on Water Resources (JCWR) headed by the Water Resources Secretaries of both the countries is functioning with the mandate to act as umbrella committee for all other sub-committees and groups under it. So far five meetings of the JCWR have been held which covered the entire gamut of bilateral cooperation in the water resources sector including flood management aspects and issues regarding multi-purpose projects on rivers coming from Nepal like the Sapta Kosi, the Sun Kosi, the Pancheshwar multi-purpose projects and other related matters.

In order to prevent spilling of flood water from the Bagmati, the Kamla, Lalbakeya and the Khando rivers from Nepal side in the protected area in Bihar, both sides have agreed to extend the embankments along these rivers from the India-Nepal border to high grounds in Nepal with corresponding strengthening of embankments on the Indian side. The work relating to this aspect is under various stages of implementation.

GFCC is also providing technical assistance by way of its officers leading or participating as members of the following Committees .

(1) Joint Standing Technical Committee (JSTC)

This Committee was constituted during the 3rd meeting of India-Nepal Joint Committee on Water Resources (JCWR) held from 29.09.08 to 01.10.08 at Kathmandu (Nepal). The function of JSTC is to coordinate the work of existing committees and sub-committees under the JCWR. The Constitution (Indian side) and terms of reference of the Committee are as under :

1.	Chairman, GFCC, Patna	Team Leader
2.	Commissioner (Ganga), MOWR	Member
3.	Joint Secretary (Hydro), Ministry of Power	Member
4.	Chief Engineer (UGBO), CWC, Lucknow	Member
5.	Chief Engineer (HP & I), CEA	Member
6.	Director (North), MEA, New Delhi, Embassy of India	Member
7.	Representative from Embassy of India, Kathmandu	Member
8.	Engineer-in-Chief (North), WRD, Govt. of Bihar	Member
9.	Representative of Govt. of U.P	Member
10.	Representative from Govt. of West Bengal	Member
11.	Representative from Govt. of Uttarakhand	Member
12.	Sr. Joint Commissioner, MOWR	Member-Secretary

Terms of Reference of JSTC

1. To coordinate all existing Committees and Sub Committees under the JCWR

So far two meetings of JSTC have been held . The last meeting was held in Nepal on 30 -31 March, 2010 in which various issues of bilateral concern were discussed and decisions taken.

(2) Joint Committee on Inundation and Flood Management (JCIFM)

This committee was constituted in the 4th meeting of India-Nepal Joint Committee on Water Resources (JCWR) held on 12-13, March, 2009 in New Delhi. This committee replaces the earlier bilateral committees namely SCIP, HLTC, JCFM, SCEC and SCFF. The Constitution (Indian side) and terms of reference of the committee is as under:

1.	Member (Coordination), GFCC, Patna	Team Leader
2.	Chief Engineer, CWC, New Delhi	Member
3.	Chief Engineer (WRD), Govt. of Bihar/Chief Engineer, Irrigation Department, Govt. of U.P./Chairman, North Bengal Flood Control Commission, Govt. of West Bengal	Member
4.	Director (North), MEA, New Delhi	Member
5.	Sr.Joint Commissioner, MOWR	Member
6.	Representative of EOI, Kathmandu	Member
7.	Director (MP-II), GFCC, Patna	Member-Secretary
8.	Director (Finance), MEA/MOWR, New Delhi	Invitee

Terms of Reference of JCIFM

1. The JCIFM shall be an umbrella Committee to implement the decisions of JSTC in inundation and flood management issues.
2. The JCIFM shall address the issues related to flood management and inundation and can form task group(s), if required.
3. The JCIFM shall monitor the progress of works and provide guidance to task group(s) and report to JSTC.

So far four meetings of JCIFM have been held. The last meeting was held in Nepal during 10 to 14 January 2011 in which various issues relating to inundation, flood forecasting and extension of embankment in Nepal territory were discussed and appropriate decisions were taken.

8.2 India-Bangladesh Cooperation

The Indo-Bangladesh Joint Rivers Commission (JRC) was set up in November 1972 to discuss and sort out the issues related to common/border rivers between India and Bangladesh. The setup provides a platform for resolution of common problems related to developments works on common/border rivers, causing no harm to either side.

Under the aegis of above Commission, meetings are held at regular interval at various levels to discuss related issues. The decisions taken in such meetings are finally ratified by the Commission.

Various issues related to management of floods in common/border rivers have been discussed. The issues in respect of Ganga Basin under deliberations are summarized as under:

Bank Protection Works

Most of common / border rivers between India and Bangladesh traverse through alluvial plains and they keep on changing their course due to meandering and erode banks on either side. Bank protection works are thus required to arrest erosion at vulnerable points. The matter was discussed in the 36th meeting of JRC held in 2005 and at various subsequent occasions. Later in the Secretary (Water Resources) level meeting between India and Bangladesh held in August 2007, it was decided that bank protection works on identified sites could be taken up simultaneously on both sides within a time frame of three successive working sessions with similar specifications of works. The specifications of works to be undertaken were finalized in a technical level meeting held in December, 2009. As per the list exchanged between the countries, the bank protection works were proposed on 41 sites in India and 28 sites in Bangladesh. It was also agreed to add more sites as per requirement.

Dredging of river Ichamati

The matter related to dredging of river Ichamati to relieve the catchment of river Ichamati from drainage congestion problem was discussed in the 18th meeting of the Standing Committee of JRC held from 20th to 31st May 2005 wherein the Indo Bangladesh Task Force (IBTF) for flood management was directed to formulate a proposal for de-silting of River Ichamati in the reach from Angrail to Kalanchi as an immediate measure. A tentative proposal for pilot de-silting of river Ichamati was considered in the specially convened meeting of the IBTF held on 8.6.2005 for placing the same for consideration of Standing Committee of the IBJRC, but the proposal was not accepted by the Bangladesh side.

Subsequently joint survey was conducted in the common border stretch of the river in August 2005. the matter was further discussed in the 36th meeting of the JRC held in September 2005. As per the decision taken during the meeting, a joint inspection by the Ministers of Water Resources of the both country was carried out in September, 2006.

The matter was again discussed in the Secretary level meeting held in August 2007. It was decided that the proposal for de-silting of river Ichamati could be placed for consideration for JRC in its forthcoming meeting and the work could be started at the earliest under supervision of a joint monitoring team. The issue was again discussed in a technical level meeting held during 5th to 6th December 2009, but matter could not be finalized.

The details of modalities and plan for desilting work was further discussed in Technical Level meeting held between both country from 30.12.2009 to 1.1.2010 and were finalized. The same was also endorsed in the Secretary Level meeting during 4-5 January, 2010.

As per the details finalized between India and Bangladesh, the work for desiltation of river Ichamati from Bornoberia to BSF Bridge at Kalanchi (total length :

20.415 km) started from March 9, 2010 under joint monitoring team of officials from both countries. One officer from GFCC (on alternate basis) is being deputed for joint monitoring from Indian side. The scheme is under progress. .

Chapter - 9

Promotion of Use of Hindi

9.1 PROGRESSIVE USE OF HINDI

An Official Language Implementation Committee has been constituted in Ganga Flood Control Commission headed by the Chairman, GFCC. Both Members of GFCC and various Directors, Deputy Directors, Administrative Officer, P.S. to Chairman, Assistant Director (Gr.II), Hindi Translator and Branch heads from GFCC besides Dy. Director (Implementation), Official Language, Ministry of Home Affairs and one officer from Hindi Teaching Scheme are its members. Assistant Director (Gr-II) of the Commission is Member- Secretary of this committee. The Committee is required to hold its meetings once every quarter. In these meetings, detailed discussions are held on the quarterly progress reports and emphasis is given on achieving the targets laid down in the annual programme. The committee makes an assessment of actual position of progressive use of Hindi in day to day work of the Commission and suggest measures for removing the difficulties experienced at the working levels. During the year 2010-11, four meetings of the Committee were held.

Chairman, GFCC is a Member of Hindi Salahkar Samiti, Ministry of Water Resources and “Nagar Rajbhasa Karyanvayan Samiti”, Patna. Chairman or any senior officer of the Commission participates in the meetings of above committees regularly.

9.2 ACHIEVEMENTS

9.2.1 ACHIEVEMENTS DURING 2010-11

During the year 2010-11 generally all office orders were issued in both languages i.e. Hindi and English. During the year 2010-11 out of 6358 letters issued by GFCC, 4298 were in Hindi. The region-wise break up is given below:

S.No.	Region	Total letters issued	Letters issued in Hindi
1	A	6247	4241
2	B	29	19
3	C	82	38
	Total	6358	4298

To increase the awareness of use of Hindi language, Hindi Fortnight was organized from 1.9.2010 to 15.9.2010. Competition for Hindi Essay, Noting / Drafting and General Hindi / Knowledge was also organized among officials of the commission during this period. After evaluation, prizes were distributed among the winners.

The following officials of the Commission were awarded prizes:

(a) Hindi Essay Competition

Sl.No.	Name/Post	Prizes
1	Shri Rajeev Kumar Pandey	First
2	Shri Mukesh Kumar Sinha	Second
3	Amar Nath Jha	Third

(b) Hindi Noting & Drafting Competition

Sl.No.	Name/Post	Prizes
1	Shri Anand Kumar	First
2	Shri Dilip Kumar Singh	Second
3	Shri Pappu Lal	Third

(c) General Hindi / Knowledge Competition (For “Grade- D” Staff only)

Sl.No.	Name/Post	Prizes
1	Shri Balmiki Prasad	First
2	Shri Indradeo Paswan	Second
3	Shri Rameshwar Yadav	Third

(d) Incentive Scheme for doing work in Hindi (2008-09)

Sl.No.	Name/Post	Prizes
1	Shri Tufail Ahmad, UDC	First
2	Shri Pappu Lal, LDC	Second
3	Shri Jitender Kumar, Head Clerk	Third

9.2.2 Inspection of Sub Committee of the Parliament on Official Language

The second Sub Committee of the Committee of Parliament on Official Language conducted inspection of the progressive use of Rajbhasha Hindi in Official work of GFCC on 30th September, 2010. The Sub Committee was satisfied with the progress made in this regard. The Sub Committee however made certain observations for the implementation which are being followed.

Chapter - 10

Participation in Trainings, Workshops and Seminars

10.1 Training/Workshop/Seminar attended by GFCC officials:

During the year 2010-11, officers and staff of GFCC participated in various training programmes, workshops and seminars as per the details given below:

Sl. No.	Training Course/ Workshop/ Seminar	Dates	Name of Officers
1	International Workshop on "River Management (IWRM-2010)" at New Delhi	14.12.10 to 16.12.10	Sh.S.Masood Husain, Member (P), Shri Sanjay Kumar Gangawar, Director (MP-II), Shri Arun Kumar Singh, DD(MP-I)
2.	Workshop on "Results Framework Document (RFD) - An instrument for Improving Govt. Performance" at New Delhi	22..2.11	Sh..Ravi Bhusan Kumar, Director (MP-I)
3.	Introductory Workshop on "Renewable Energy Action Plan for Bihar" at Patna	23.2.11	Shri S.N. Tiwari, Director (P)
4	Orientation programme held at NWA, Pune	21.3.11 to 8.4.11	Shri S.P. Chaurasia, AD-II
5.	Workshop on "River Dynamics and Flood Hazard Assessment with special reference to the Kosi River" at Patna	23.3.11	Shri A.K Ganju, Chairman, Shri S.N. Tiwary, Director(P), Shri Awadhesh Sharma, Director(C), Shri Ravi Bhushan Kumar, Director(MP-I), Shri Sanjay Kr. Gangwar, Director(MP-II)

Chapter – 11

Representation of Ganga Flood Control Commission in Various Committees

Chairman, GFCC and other senior officers represent GFCC on various technical committees either as Chairman, Member-Secretary or as Members. The list of such Committees

Sl. No.	Name of Committee/ Board/ Experts/ Technical Group etc.	Representation of GFCC	
		Officer	Position
1.	Ganga Flood Control Board	Chairman, GFCC	Member-Secretary
2.	Ganga Flood Control Commission	Chairman, GFCC	Chairman
3.	Gandak High Level Standing Committee	Chairman, GFCC	Chairman
4.	Kosi High Level Committee	Chairman, GFCC	Chairman
5.	India-Nepal Joint Ministerial Commission on Water Resources (JMCWR)	Chairman, GFCC	Member
6.	India-Nepal Joint Committee on Water Resources (JCWR)	Chairman, GFCC	Member
7.	India-Nepal Joint Standing Technical Committee	Chairman, GFCC	Indian Team Leader
8.	India Nepal Joint Committee on Inundation & Flood Management (JCIFM)	Member(C), GFCC	Team Leader
9.	Indian-Nepal Joint Committee on Kosi & Gandak projects	Member(C), GFCC	Member
10.	National Institute of Hydrology Society	Chairman, GFCC	Member
11.	U.P. State Committee of Engineers	Director, GFCC	Member
12.	Bihar State Committee of Engineers	Director, GFCC	Member
13.	West Bengal State Committee of Engineers	Director, GFCC	Member
14.	M.P. State Committee of Engineers	Director, GFCC	Member

Sl. No.	Name of Committee/ Board/ Experts/ Technical Group etc.	Representation of GFCC	
		Officer	Position
15.	Technical Advisory Committee of Farakka Barrage Project	Chairman, GFCC Alternate: Member(P), GFCC	Member
16.	Farakka Barrage Project Advisory Committee	Member(P), GFCC	Member
17.	Tender Committee of Farakka Barrage Project	Member(P), GFCC	Member
18.	T.A.C. of Bihar	Director, GFCC	Member
19.	T.A.C. of Uttar Pradesh	Director, GFCC	Member
20.	T.A.C. of Himachal Pradesh	Director, GFCC	Member
21.	T.A.C. of Haryana	Director, GFCC	Member
22.	T.A.C. of Rajasthan	Director, GFCC	Member
23.	Technical Committee of West Bengal State Flood Control Board	Director, GFCC	Member
24.	TAC of Jharkhand	Director, GFCC	Member
25.	TAC of Uttarakhand	Director, GFCC	Member
26.	TAC of Chhattisgarh	Director, GFCC	Member
27.	T.A.C. of Madhya Pradesh	Director, GFCC	Member
28.	Yamuna Standing Committee	Member(P), GFCC	Member
29.	Coastal Protection And Development Advisory Committee	Member(P), GFCC	Member
30.	NNRMS Standing Committee on Water Resources (SC-WR)	Chairman, GFCC	Member
31.	NIH Regional Coordination Committee for Ganga Plain North Regional Centre	Director, GFCC	Member
32.	Water Resources Division Council of Bureau of Indian Standards	Chairman, GFCC (Alternate Member- Member(C),GFCC)	Member
33.	River Training & Diversion Works Sectional Committee (WRD-22) of Bureau of Indian Standards	Director (MP-II), GFCC (Alternate Member – Director (P), GFCC)	Member

GLIMPSES



Construction of anti-erosion works (spur) on river Yamuna in Mathura, Uttar Pradesh



Anti-erosion works -slope pitching with launching apron using geobags on river Ghagra in Lakhimpur Kheri District, Uttar Pradesh

GLIMPSES



Inspection of ongoing works under Flood Management Programme on river Ganga in Anoop Shahar, Uttar Pradesh by Shri Salman Khurshid, Hon'ble Union Minister (Water Resources)



Inspection of erosion affected site on river Ganga in Farrukhabad, Uttar Pradesh by Shri Salman Khurshid, Hon'ble Union Minister (Water Resources)

GLIMPSES



Construction of bank protection works on river Raimongal under FMP in West Bengal



Works for Desilting of river Ichamati on common / border stretch on Indo-Bangladesh border

GLIMPSES



Valedictory function of the Hindi Fortnight 2010-11 held from 1.9.10 to 15.9.10



Fourth meeting of India-Nepal Joint Committee on Inundation and Flood Management (JCIFM) during 10-14 January 2011 at Kathmandu